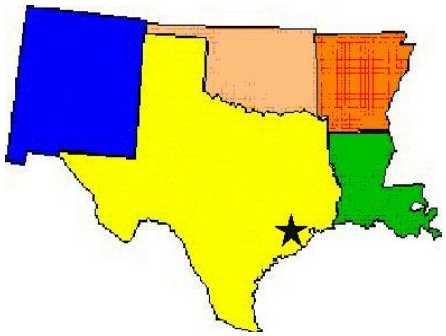
SOL LYNN SUPERFUND SITE
Houston, Harris County, Texas



EPA Region 6
EPA ID #: TXD980873327
Site ID: 0602954
State Congressional District: 25

Contact: Gary Miller 214-665-8318
Updated: October 2012

Background

The site is located within the city limits of Houston, Harris County, Texas, south of Interstate Highway 610 and west of State Highway 288. The Sol Lynn site covers approximately 0.75 acres and bounded on the north by South Loop Feeder Street of 1-610, on the west by Knight Street, on the south by Mansard Street, and on the east by South David Street. The area around the site includes a mix of residential, commercial, and light Industrial uses. A light Industrial and commercial business area Is located directly to the east and south of the site while the Astrodome and Reliant Stadium are located approximately 4,000 feet to the northwest.. Maximum daily traffic in excess of 100,000 vehicles per day is estimated to move within a one-mile radius due to major traffic on 1-610.

Excavated Soil Mound Located West of Site

The site is the location of a former electrical transformer salvage and recycling company, which operated between 1965 and 1975. A chemical recycling and supply company subsequently operated at the same location from 1979 through 1980. In 1971, an investigation concluded that oil was poured out of electrical transformers as they were being dismantled. Oil and grease were on the soil and floating on ponded water as well as in ditches on the site. In 1980, an inspection discovered old drums stored at the site. An oily discharge was found from a drum storage area behind the warehouses. In 1981, an inspection identified approximately 75 drums scattered on the site. Most of the drums were labeled "trichloroethene" and were empty and punctured.

The site was divided into two operable units (OU) to address the contamination. The Record of Decision (ROD) for OU-1 was issued on March 25, 1988, and consisted of excavation of the PCB contaminated soils and treatment with a chemical dechlorination process. The ROD was subsequently amended on September 16, 1992, because of problems with the treatment technology. The amended remedy for OU-1, which consisted of excavation and off-site disposal at a Toxic Substances Control Act landfill, was completed in April 1993. The ROD for OU-2 was issued on September 23, 1988, and consisted of extraction and treatment as the ground water remedy. On September 30, 2004, EPA issued an amended ROD for OU-2. The amended ROD changed the groundwater remedy to in-situ bioremediation in the source areas and monitored natural attenuation to mitigate the dissolved groundwater contaminant plumes down gradient from the source areas. In addition, institutional controls were included to prevent exposure to the contaminated ground water and to control residential land use.

Current Status

Soil in the soil mound area in the southern part of the site was removed in March 2009 and disposed of off-site. Installation of 6 additional groundwater monitoring wells to better define the plume extent was completed in 2010. Sampling of the site monitoring wells was completed in August and November 2010.

A remedial action to treat ground water contaminants using in-situ bioremediation began in February 2010. The first round of the in-situ bioremediation treatments consists of emulsified vegetable oil and nutrient injection into the shallow water zones. This first injection phase was completed in March 2010.

A groundwater sampling event was completed in September to evaluate results. Review of the sampling results has indicated that an additional round of injection treatments will not be beneficial; instead an investigation will be conducted for the shallow water bearing zone (WBZ-1) to determine the plume location given the current ground water flow direction, which has changed significantly since the Remedial Investigation was completed.

The next Five-Year Review Report is scheduled for completion by December 9, 2014.

Benefits

The excavation and disposal of contaminated soil eliminated direct human exposures. The contaminated ground water plume is currently expanding and migrating down gradient. The planned ground water remediation will reduce this expansion and reduce the human health risks resulting from the contaminants, which have migrated off-site to the north.

National Priorities Listing (NPL) History

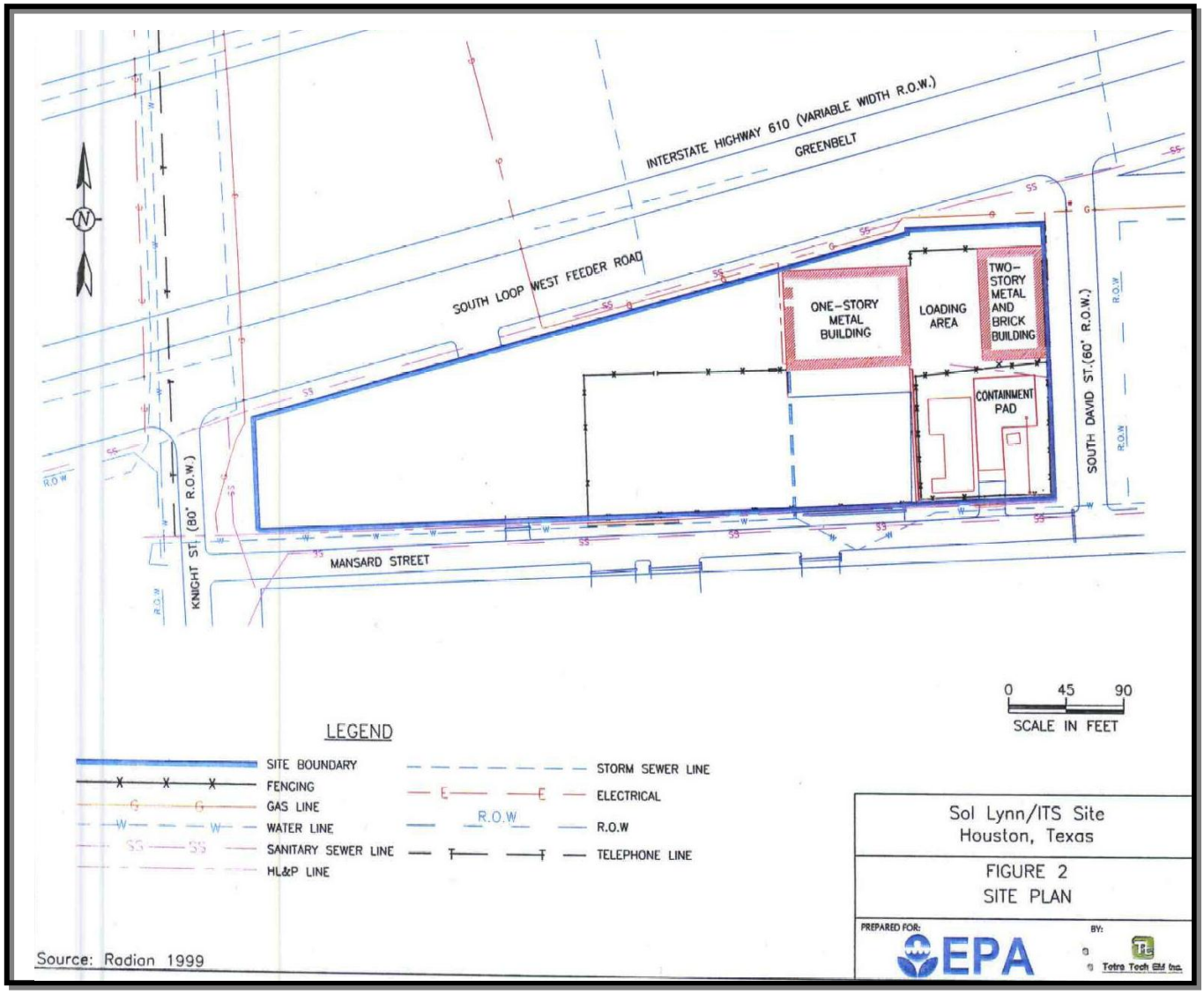
Proposal Date: October 15, 1984
Final Listing Date: March 31, 1989

Population: Approximately 2,100 persons live within one-mile of the Site.

Setting: The Site covers 0.75 acres with two buildings and a loading area in the northern part. Much of the southern portion is paved. Land use in the area is commercial, light industrial, and residential. The Site is within one-half mile of the Astrodome, Astroworld Amusement Park, several industrial plants, and apartment complexes. The Site has Four Houston city water wells and four private water wells within three miles of this Site, which serve more than 10,000 persons. These wells are screened at depths exceeding 700 feet.

Hydrology: Shallow ground water is found at a depth of about 20-feet. Nine water-bearing zones are present above a depth of 200-feet. The top four water-bearing zones, which are currently contaminated, generally flow in a northerly (varying between northeast and northwest) direction. The estimated ground water flow velocity for these four zones varies between 17 feet/year and 68 feet/year.

Site Map



Wastes and Volumes

The site is a former scrap metal and electrical transformer salvage and recycling facility, which operated between 1971 and 1978. A chemical recycling and supply company subsequently operated at the same location from 1979 through 1980. PCBs and solvents were dumped on-site over a 1-acre area during these operations.

The principal pollutants at the Site include trichloroethylene (TCE) in ground water and polychlorinated biphenyls (PCBs) in soils. Prior to initiating remedial action, TCE in ground water was as high as 790 parts per million (ppm), and PCBs in soil ranged up to 357 ppm. Approximately 2,400 cubic yards of soil and 12 million gallons of ground water were contaminated with site wastes.

Health Considerations

Ingestion of TCE from ground water poses a risk to human health. Prior to remediation, Site soils were contaminated by PCBs and TCE.

The site's Environmental Indicator status is human exposure under control and ground water migration not under control. Achievement of the ground water migration under control Environmental Indicator is expected following implementation of the amended ground water remedy described below.

Record of Decision

The Record of Decision for Operable Unit 1 (OU1), which addressed soil contamination, was signed on March 25, 1988, and amended on September 30, 1992. The Record of Decision for OU2, which addressed ground water contamination, was signed on September 23, 1988, and amended on September 30, 2004. The selected remedies (as amended) included the following:

- Soil: Chemical dechlorinization was initially chosen as the soil remedy; a process whereby contaminated soils are mixed with chemical reagents to remove halogenated organic compounds. During pilot testing, the technology performed well, but upon application in the field, the process could not be effectively implemented. Subsequently, the remedy for soil was changed to excavation and off-site disposal. In 1993, a total of 2,281 cubic yards of soil was excavated and disposed of off-site. This action completed the final soil cleanup for the Site.

- Ground Water: The initial ROD for OU2 selected pump-and-treat as the ground water remedial technology. Ground water recovery began in 1993. A total of 15.5 million gallons of contaminated ground water was recovered before the pump-and-treat system it was shut down in early 2000 when it was determined that the existing system would not achieve the remediation goals. The amended ground water ROD selected in-situ bioremediation with monitored natural attenuation and institutional controls as the remediation technology.

Construction completion was achieved for the site on September 29, 1993, when construction for the initial pump-and-treat ground water remedy was completed.

Community Involvement

Community Involvement Plan:	Revised September 2004
Proposed Plan:	April 8, 2004
Public Meeting:	April 15, 2004
Technical Assistance Grant:	April 1989 - No Final Applications received
Information Repository:	Houston Central Library, Texas & Local History Division 500 McKinney St., Houston, Texas 77002 (832) 393-1313

Site Contacts

EPA Remediation Project Managers:	Gary Miller	(214) 665-8318
State Project Manager:	Fay Duke	(512) 239-24423
EPA Community Involvement:	June Hoey	(214) 665-8522
State Community Relations:	Crystal Taylor	(512) 239-3844
EPA Public Liaison:	Don Walters	(214) 665-6483
EPA Site Attorney:	Ann Foster	(214) 665-2169
EPA Toll-Free Telephone Number:		(800) 533-3508